Contact Light - An interactive CD-ROM for middle school students.

A. Smailbegovic, C.Coombs and N. BinZafar. Department of Geology, College of Charleston, Charleston, SC. Amer@jove.cofc.edu, Cass@jove.cofc.edu, Nafees@foyt.cs.cofc.edu.

INTRODUCTION

Current efforts to target and educate middle school students about planetary science disciplines have been limited. Many students in South Carolina, and throughout a major part of the United States know very little about current planetary exploration and the space science program. These students' dreams and ideas of becoming an astronaut are suppressed by their community which views the space program as wasteful and counterproductive. The future of the U.S. space program ultimately depends upon how we educate and excite these students now.

CONTACT LIGHT

We have written and produced an educational CD-ROM named "Contact Light" that can bring a whole new dimension to planetary science education at the middle school level. Written in the universal HTML/JAVA format, the CD is applicable and easy to use on any type of computer platform: PC, Macintosh and/or UNIX. It will be offered free of charge to educational institutions and programs.

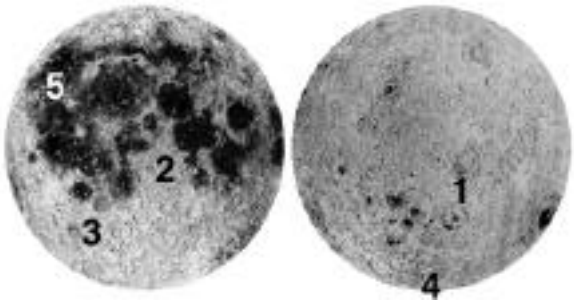

Figure 1 - CD-ROM Site Locations on lunar near and far sides.

The "Contact Light" CD-ROM has been designed as an interactive, near-futuristic voyage to the moon, using engineering platforms and science procedures implemented by NASA. The user first learns about the geologic history of the moon and the history of lunar exploration and then embarks on a virtual journey to the International Space Station Alpha to attend a final briefing before visiting five locations on the moon (Figure 1).

The first stop is on the lunar far side at the Apollo Basin (1), an impact crater that seems to have penetrated deepest into the lunar crust. Here, the *explorer* learns about the scope of cataclysmic events that have shaped the moon. The traveler then continues around to the nearside include Apollo 16 Landing Site (2) where the user learns about the nature, origin and morphology of the lunar highlands. Next stop is Tycho Crater (3), a relatively "fresh" impact crater. The last stop before traveling to the main lunar base at the Aristarchus Plateau(5) is the Lunar South Pole(4) where the *explorer* learns that there is water ice hidden in the deep shadows of the craters. Finally, at the Aristarchus plateau stop, the user learns about lunar volcanism.

At each location the user has a chance to examine recently collected Clementine and Galileo images. In addition, some original footage from the Apollo missions modified and augmented with computer animation is used to offer a full near-realistic component to the virtual journey.

Also, while visiting the main lunar base (Figure 2) on the Aristarchus plateau, the user will learn about plans for future lunar exploration and what is required to live on the moon (see [1] for more information about the Lunar Base Site). Throughout the voyage, an occasional "cookie" will pop up with some interesting fact about what we gained from the space program.

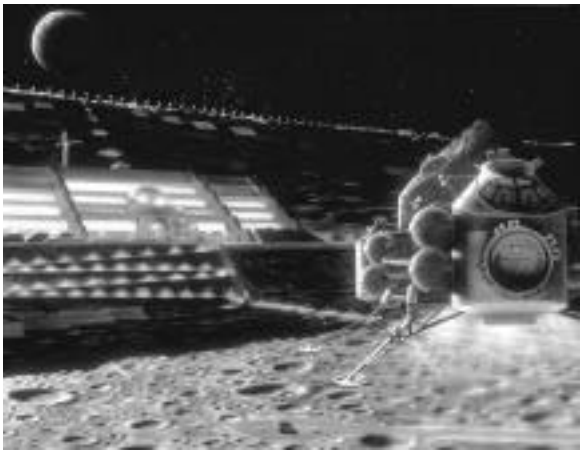

Figure 2 - Futuristic Lunar Base Concept in the Aristarchus Crater (NASA Photo: Pat Rawlings).

SUMMARY

By targeting the middle school audience, it is possible to keep the space exploration spirit alive and well in the hearts and minds of those who still dream about it and who are old enough to fully understand what they are working toward. This type of hands-on, interactive educational tool will offer a new perspective to the methods in which planetary science is traditionally presented. The students will be able to see and explore the moon, hands-on, in three dimensions, until they get the chance to take another giant leap. Comments and suggestions are welcome.

REFERENCES

[1] Coombs et al. (1997). Aristarchus Plateau: A future lunar base site? LPSC XXVIII.